

REMARKS

This Amendment is in response to the Office Action of October 31, 2008 in which claims 1-6, 8-20 and 22-33 were rejected and claims 7 and 21 objected to. It is not believed that there are any extra claims fees due but if that belief is incorrect, the Commissioner is authorized to deduct the correct fee due from our Deposit Account No. 23-0442. It is likewise believed that this reply is timely but if not, the Commissioner is authorized to consider this paper as a petition for the correct extension of time period and to deduct the corresponding fee from our Deposit Account No. 23-0442.

I. Art Rejections

The independent claims 1 - 2, 6 - 7, 9, 11, 14, 21 - 24, and 26 - 27 are rejected for lack of novelty especially over the *Salatino et al* reference (U.S. Patent No. 5,862,248). In addition claim 5-8 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentably obvious over *Salatino et al.* as applied to claims 1 and 31 above, and further in view of *Watanabe Takaya* (JP 06-1 04641 A).

The applicant was well aware of the subject of the *Salatino et al* reference at the date of filing the current application, as can be seen e.g. on page 2, starting from line 20 where the applicant refers to another similar publication of *Salatino*, namely US 5,887,343 which was published later than the document cited by the Examiner. Both publications however relate to the same content of a fingerprint sensing device. It appears to be typical to *Salatino*, as also to *Setlak* (US 6,067,368), to use a separate insulating planar substrate to form the measurement electrode. This substrate contains the interconnecting wiring and the vias through the substrate. The substrate is connected to the silicon integrated circuit containing the signal and data processing capabilities. However, this solution is complicated to manufacture because a large number of interconnecting wiring must be connected within a small space. Such wiring also is not very robust, which tends to make the structure to break easily in

mobile use. One disadvantage with the prior art solutions relates to the ergonomics of the sensor. A finger must be pressed rather heavily against the flat sensor in order to achieve sufficient contact area between the sensor and the finger as can be understood also from the stated object of the *Salatino et al* document cited by the Examiner (e.g. col 3, lines 9-18). Therefore the measurement may often fail when the finger is not pressed and slid properly along the sensor surface. Another problem with fingerprint sensors is the easy manufacturing of an artificial finger for the user identity falsification. The prior art fingerprint sensors cannot reliably distinguish living tissue finger from an artificial plastic replica.

A further problem of the prior art solutions relates to the positioning of various sensors. In order to sense the ambient conditions the sensors need to have an interaction with the environment outside the equipment. Therefore the sensors should be located on the cover of the equipment. Sensors of this kind are generally fixed to the main printed wired board (PWB) of the equipment, and the sensors are made to extend to the surface of the equipment housing through holes in the cover. However, the surfaces of the modern equipment, such as mobile terminals, tend to have designs with three-dimensional curvature. Therefore the distance between the PWB and the cover surface varies which makes designing the sensor structure difficult. The sensors should also have determined locations on the surface of the equipment cover, and it may be difficult to design the layout of the main PWB so that the determined sensor locations are achieved. One solution to this problem is to fix the sensors to the equipment cover, but then the attachment of the sensors to the cover as well as arranging the wiring between the sensors and the main printed wired board would be difficult to realize in mass production.

In order to make clearer difference between the present invention and the cited prior art (especially *Salatino* and *Watanabe Takaya*, as well as *Benkley* (US 7,099,496)) the applicant has amended first independent method claim as follows (based especially on original claims 1 and 24) and renumbered it as follows:

31. A sensor arrangement comprising at least one sensor, at least one integrated signal processing circuit for the measurement of signals from the at least one sensor, and interconnecting wiring between the at least one sensor and the integrated circuit, [characterized in that] wherein the arrangement comprises a substrate, said substrate forming at least part of said interconnecting wiring and said substrate is further arranged to serve as a functional part of at least one said sensor, and wherein said substrate comprises means for forming a sensor together with a sensor part, wherein said substrate and said sensor part are galvanically separated, and wherein said substrate and said sensor part comprise means for transferring energy and measurement information inductively between said substrate and said sensor part.

The new independent claim 31 includes the features of the original claims 1 and 24. New dependent claims 32-34 are equal to original dependent claims 25-27. New dependent claims 35-42 are equal to the original dependent claims 16-23. New claims 33 and 44 are equal to the original claims 28 and 29.

The amended claim set corresponds with the amended claims of corresponding PCT application which were held patentable by the PCT Examiner (as can be seen from the Written Opinion issued in the case).

The claimed arrangement for sensors facilitates good security properties and ergonomics, as well as good suitability to serial production. Hence, the claimed invention presents a substantial improvement to the cost efficiency and reliability of the sensors, especially in mobile applications.

Thus, it becomes apparent that the rejected claims, as amended, are neither anticipated nor rendered obvious by the *Salatino et al* reference.

Withdrawal of the novelty and obviousness rejections is requested.

III. Double Patenting

In addition the Office Action reveals a non-statutory double patenting rejection of claims over the original claim 1 of co-pending application number 10/763,821 (Atty. Docket No. 915.001.026). However the latest amended independent claim 1 of 10/763,821 resulted in:

A fingerprint sensor arrangement comprising at least one driver electrode and at least one sensor electrode for a capacitive measurement, and an integrated signal processing circuit for the measurement of signals from the electrodes, and interconnecting wiring between the electrodes and the integrated circuit, wherein the arrangement further comprises a substrate of flexible material that forms at least part of said sensor, and the substrate, the at least one driver electrode, the at least one sensor electrode, said signal integrated circuit and said interconnecting wiring are embedded within an integrated module, and wherein said interconnecting wires are metallizations between polymer layers, and said at least one driver electrode and/or said at least one sensor electrode is metallization between polymer layers.

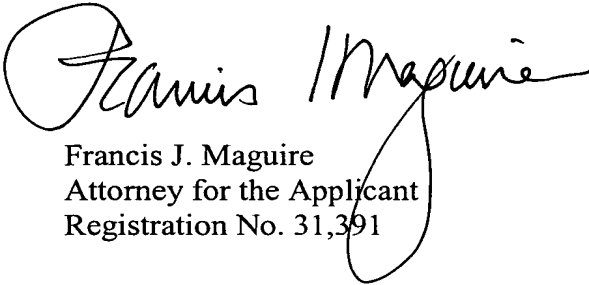
Clearly, the amended claims hereof are not shown by the above claim and would not be obvious in view thereof. Withdrawal of the obviousness-type double patenting rejection is requested.

IV. Conclusion

Based on the above the applicant honestly believes that the amended set of claims makes a clear difference between the presently claimed invention and the applied prior art solutions being thus allowable.

The objections and rejections of the Office Action of September 23, 2008, having been obviated by amendment or shown to be inapplicable, withdrawal thereof is requested and passage of claims 31-44 to issue is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, reading "Francis J. Maguire". The signature is written in a cursive style with a large, looping initial "F" and a long, sweeping underline that extends to the right.

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